

our in-person interviews from several different groups: agriculture, forestry, commercial fishing, recreational interests, industry, development, environmental groups, and local government. We also asked the committee for nominations of resource managers and scientists.

With help from our advisory committee we developed an in-person interview survey instrument that provided considerable background information useful in designing the telephone surveys for both Phase I and Phase II. We asked questions on a number of different topics, including: nature and causes of problems and issues; evaluation of current and future management strategies; barriers to water quality improvement; influence of different groups, levels of government, and the public; nature of public attitudes; educational strategies and approaches; and evaluation of the A/P study. The interviews were completed by March of 1990. Tapes from completed interviews were transcribed and the responses were analyzed. These results were summarized in the Phase I report.

We conducted an extensive literature review of other surveys related to environmental attitudes. This effort included written contact with over 150 social scientists from around the country. We also wrote the coordinators of all the other estuary programs. We compiled and organized all survey questions that could possibly be used in our telephone and mail interviews. Based on these reviews and information from the in-person interviews, we drafted the telephone and mail survey instruments. We sent our advisory committee several drafts of each survey for review. Meetings were held to review and finalize the survey instruments. The committee also made recommendations regarding the sample design and other matters.

Sample Design for Telephone Survey

Given the study's objectives, the research design employed was cross-sectional utilizing a random sample of households with telephones. For Phase II, the universe for the survey was defined as the 100 counties in North Carolina and the 16 counties/independent cities in Virginia within the watershed of the Albemarle-Pamlico Estuarine system. Because we were interested in both subarea variations and the region as whole, it was necessary to design a sampling strategy that would permit us to examine both. This required a compromise. On the one hand, drawing a random sample from the entire area would result in only a small number of interviews being conducted with respondents from coastal counties, while the majority of interviews would be conducted with people from the more populous parts of the area (e.g., Wake County). In this case, the lowest standard errors of estimation would be achieved for the entire area when the sample is distributed in proportion to the distribution in the population. On the other hand, we could have selected cases from each subarea equally. That would produce the lowest standard error of estimation for subarea differences. Therefore, we selected an option that allows us to generalize to the